

## **Historic, archived document**

Do not assume content reflects current scientific knowledge, policies, or practices.



U. S. DEPARTMENT OF AGRICULTURE,

STATES RELATIONS SERVICE.

A. C. TRUE, Director.

**HOW TEACHERS IN RURAL ELEMENTARY SCHOOLS MAY  
USE FARMERS' BULLETIN 602, CLEAN MILK: PRODUCTION AND HANDLING.**

*Range of use.*—All rural elementary schools.

*Relation to the course of study.*—The material in this bulletin can be used in the study of dairying in the course in elementary agriculture and will suggest correlations in the study of physiology and home economics.

*Illustrative material.*—Collect as many photographs as possible showing stables, milking places, and milk houses of the community. Mount these and then secure pictures of model dairy barns and milk houses and mount on the same sheet to show differences. Secure also photographs and pictures of sanitary and insanitary conditions of the dairy barn, milk houses, cows and milkers. Construct from drawings furnished by the extension service of the State college of agriculture plans of a model dairy barn and milk house. Secure actual specimens of clean and unclean milk. Obtain milk pails used in the district, and from dealers sanitary models that may be recommended for use. Carefully mount and file any material that may be made a part of the permanent equipment of the school.

*Topics for study.*—I. General importance of clean milk. What is clean milk?

II. Bacteria in milk—why common, rapidity of growth, factors influencing, effect on milk. Number of bacteria in milk depends on what?

III. Sources of milk contamination—the udder, dust in the air, dust from the cow, from the milker (how), unclean utensils, diseased cows, the consumer (how).

IV. Importance of clean milk to the consumer. Why should the consumer of milk need to be advised as to the importance of clean milk? Importance to the producer. What commercial advantage to the producer in handling clean milk? What sanitary advantage?

V. Cost and cleanliness—relative importance, effect of general demand for clean milk, need of better dairy management on the farm, importance of improving the herd through keeping of records, breeding, and selection.

VI. How to produce clean milk: (a) The cow and her care, healthy cows, test for tuberculosis, condition of the udder, general health of the cow, external condition of the cow, brushing and clipping, clean bedding and of sufficient quantity, time for feeding and bedding,



flies and their control, feed for cows which should be nutritious and palatable, effects of spoiled feed, feed having a strong odor and its relation to milk flavor, feeding of silage. Why feed after milking? Importance of ample water supply.

(b) The stable—location, especially in relation to other buildings; relation of silo to stable; ideal site; chief factors in construction, the floor, stalls, mangers, walls, ceiling, light and ventilation. Compare stables erected many years ago with modern dairy barns.

(c) The milk house—location in relation to stable and other buildings; purpose of the milk house; factors in construction tending to cleanliness; water supply, both hot and cold; necessary equipment.

(d) Utensils—characteristics, features to avoid, cleaning, sterilization, care after washing and sterilization.

(e) Milking—the milking place, preparing the cow for milking, preparation of the milker, the milk pail, desirable and undesirable types. Milk the cow with dry hands. Why?

(f) Handling the milk. In handling milk three things are to be done—weighing, object; straining, object, how done; cooling, purpose; methods. Other things that may be done—testing for percentage of butter fat; pasteurizing in all cases of doubtful purity, how done, effects.

VII. Summarize the essential factors in producing clean safe milk.

*Practical exercises.*—As a preliminary to these lessons make a district survey of dairy conditions. (Suggested forms are given on p. 3.) Note the good and the bad conditions found in the handling of milk on the farm. What type of stable is most common in the district? What use is made of the milk produced in the district? Where are the markets for the milk and milk products? If there is a creamery convenient visit it with the class, noting the various processes in handling of the milk and the preparation of the milk and its products for the market. If possible, visit a good dairy farm in the district, making a study of the method of handling the milk. Have samples of milk brought to school and allow them to stand for some time and examine carefully for traces of dirt settled in bottom of container. Filter the milk through several layers of fine cotton and examine for deposits of dirt. Use tact in discussing insanitary conditions noted on farms in the district. The aim should be to show clearly the right methods of milk production and handling to discourage any improper methods.

*Correlations.*—Language: A written report on the district survey and a summary of the facts discovered will make a good lesson in language. Similar reports of field trips and other observation work will give additional drill in language.

Geography: Trace the milk market routes and locate the chief centers to which the market milk of the district is shipped. Draw a map of the district, locating thereon the important facts brought out in the district survey.

Arithmetic: Problems involving cost and selling price of milk, difference in price between milk of varying standards. Milk production of single cows and of the dairy herd and value of milk products both sold and consumed in the community will be suggested by these lessons.

SUGGESTED FORMS FOR A DISTRICT DAIRY SURVEY.

1. DAIRY HERDS AND HOUSING.

Owner of farm.	Num-ber of cows in herd.	Breed.	Num-ber of pure-bred.	No. of grade.	Dairy buildings.					Milk records kept.	Milk tested.
					A com-mon barn.	Sepa-rate barn.	Mod-ern barn.	Mod-ern milk house.	Com-mon type of milk house.		

2. HANDLING AND DISPOSAL OF MILK.

Milking place	Kind of milk bucket.	How cooled.	How separated.	Milk disposal.			Home use.	Markets.
				Milk sold.	Cream sold.	Butter sold.		

ALVIN DILLE,  
*Assistant in Agricultural Education.*

FEBRUARY 27, 1919.



